

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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## PCT

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

Date of mailing  
(day/month/year) 19.02.2002

Applicant's or agent's file reference  
09765-018WO1

#### IMPORTANT NOTIFICATION

International application No.  
PCT/US00/41659

International filing date (day/month/year)  
27/10/2000

Priority date (day/month/year)  
01/11/1999

Applicant  
ITA SOFTWARE, INC. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/



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# PATENT COOPERATION TREATY

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### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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|---|---|---|
| Applicant's or agent's file reference<br>09765-018WO1                                     | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |   |
| International application No.<br>PCT/US00/41659   | International filing date ( <i>day/month/year</i> )<br>27/10/2000   | Priority date ( <i>day/month/year</i> )<br>01/11/1999 |
| International Patent Classification (IPC) or national classification and IPC<br>G06F17/60 |   |   |
| Applicant<br>ITA SOFTWARE, INC. et al.  |   |   |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.  
  
☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the report
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

|   |   |
|---|---|
| Date of submission of the demand<br><br>01/06/2001  | Date of completion of this report<br><br>19.02.2002   |
| Name and mailing address of the international preliminary examining authority:<br><br> European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Authorized officer<br><br>Platzer, C<br><br>Telephone No. +49 89 2399 2462<br><br> |

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/41659

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, pages:**

1-25 as originally filed

**Claims, No.:**

1-18 as originally filed

**Drawings, sheets:**

1/14-14/14 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

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☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |      |        |          |
|-------------------------------|------|--------|----------|
| Novelty (N)                   | Yes: | Claims | 1-4,9-18 |
|                               | No:  | Claims | 5-8      |
| Inventive step (IS)           | Yes: | Claims | 2-4,9-18 |
|                               | No:  | Claims | 1        |
| Industrial applicability (IA) | Yes: | Claims | 1-18     |
|                               | No:  | Claims |          |

2. Citations and explanations  
**see separate sheet**

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

- D1: US-A-5 758 149 (KIHARA KATSUHIKO ET AL) 26 May 1998 (1998-05-26)
- D2: EP-A-0 471 282 (HEWLETT PACKARD CO) 19 February 1992 (1992-02-19)
- D3: US-A-5 828 823 (BYERS LARRY L ET AL) 27 October 1998 (1998-10-27)
- D4: WO 97 21177 A (BRITISH TELECOMM ;JAMES DEREK ROBERT (GB)) 12 June 1997 (1997-06-12)
- D5: US-A-5 897 620 (CASE T SCOTT ET AL) 27 April 1999 (1999-04-27)
- D6: US-A-5 805 809 (SINGH JAGDEEP ET AL) 8 September 1998 (1998-09-08)
- D7: EP-A-0 713 183 (MICROSOFT CORP) 22 May 1996 (1996-05-22)

2. The present application does not meet the requirements of Articles 33(1) PCT, because the subject-matter of claim 5 is not novel in the sense of Article 33(3) PCT.

2.1 As to claim 5, D1 already discloses:

An availability system used for a travel planning system:  
see col. 1, lines 41-49;

comprising:

a cache including entries of availability information of seats for a mode of transportation:

see col. 3, lines 18-52;

a cache manager that manages entry information in the cache so that information in the cache is correct, current, complete, or otherwise as useful as possible:

see col. 26, line 33- col. 27, line 15.

2.2 Since all features of claim 5 are known from D1, claim 5 lacks novelty.

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EXAMINATION REPORT - SEPARATE SHEET**

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- 2.3 It should be mentioned that the features of claim 1 can also be found in prior art documents D2 (see page 3, lines 27-52) and D3 (see col. 1, line 27 - col.2, line 6). Thus, claim 5 lacks novelty also over D2 or D3.
- 2.4 Dependent claims 5-8 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty, because they merely define well known cache entry update processes (add/delete/modify).
3. Moreover, the present application does not meet the requirements of Articles 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.
- 3.1 Claim 1 defines a cache management where upon determination that a stored answer is stale an actual availability query is triggered so as to provide a consistent set of cache entries.
- 3.2 Such a method is however well known in the art of cache designs since any local copy of a data set derived from a central storage (be it a main memory or the entries in a database storage subsystem) can potentially contain stale data after modifications of data in the central storage.  
Thus, in order to keep the local copies consistent with the main storage, periodic checks have to be implemented.  
Such a policy is described e.g. in D6, col.11, first paragraph or D7, col. 7, lines 37-54.
- 3.3 Present claim 1 differs from this concept only in that it explicitly defines that the entries contain "availability information for a seat on an airline".  
However, a skilled person would certainly be aware of the general applicability of stale determination/update query generation known from D6 or D7 so that this principle would be used in any system requiring consistency between cache and main memory data.  
Therefore, the solution claimed in claim 1 cannot be regarded as involving an inventive step (Article 33(1) and (3) PCT).

4. Considering the present application as a whole and comparing it to the available prior art, it would appear that the following features are in fact essential to the performance of the invention:

- a predictor model is used to guide the cache manager operation, the prediction being based on prior knowledge about likely rates of change or times of change of seat availability,
- the output of the prediction is an ordered list of entries to be updated or added to the cache,
- for each entry on the list in the order given a query to the availability source is submitted so that the result is stored in the cache by updating an entry if present and adding an entry if not present in the cache.

4.1 Claims 2-4 (method) and 9-18 (system) are **in combination** directed towards such subject-matter and would therefore appear to be neither known from, nor rendered obvious by the available prior art.